X2000 Advanced Avionics Project
Development of a New Generation of Avionics for Space Applications

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The X2000 Advanced Avionics Project has developed of a new generation of avionics building block modules for use by multiple deep space missions, including future missions to Europa, Mars, and a comet. The key developments of the X2000 Avionics are a high performance flight computer, solid-state mass data storage, high-speed system I/O, solid-state power distribution, and power regulation and conversion. These components enable a modular and scalable design approach that results in a wide variety of avionics system architectures to meet diverse mission requirements and environments. The X2000 Avionics have been developed for use in extreme radiation environments such as those at Jupiter. The use of commercial standard interfaces and buses throughout the X2000 Avionics allow system designers to add functionality and further customize spacecraft architectures. This paper will describe the system architecture, the avionics components, the key performance and reliability requirements, and the current development status of the X2000 Avionics.